Question: Can you remind me the full extent of the radionuclides that the new Parcel G Workplan will test for in various ways? How much they will test for alpha & beta in addition to gamma?

The Draft Final Parcel G Removal Site Evaluation Work Plan (Work Plan) currently proposes:

If any ^{226}Ra gamma spectroscopy concentration exceeds the ^{226}Ra remedial goal (RG) and the range of expected naturally occurring radioactive material (NORM) concentrations, then the soil sample will be analyzed for uranium-238 (^{238}U), uranium-234 (^{234}U), thorium-230 (^{230}Th), and ^{226}Ra using comparable analytical methods (e.g., alpha spectroscopy).

Radionuclides of concern (ROCs) for soil are ^{226}Ra, strontium-90 (^{90}Sr), and cesium-137 (^{137}Cs), except at the Former Buildings 317364/365 Site where 10 percent (%) of samples will be analyzed for plutonium-239 (^{239}Pu). However, samples from trenches will be analyzed for ^{226}Ra and ^{137}Cs and only 10% of samples will be analyzed for ^{90}Sr. If the laboratory results indicate concentrations of ^{137}Cs exceed its RG, then the sample will be analyzed for ^{90}Sr and by alpha spectroscopy for ^{239}Pu. If there are any exceedences in the 10% of samples analyzed for ^{90}Sr, the sample would also be analyzed by alpha spectroscopy for ^{239}Pu.

Reference background area (RBA) samples will be analyzed for additional radionuclides so that natural background and levels of fallout of anthropogenic radionuclides can be established. Because there are a number of radionuclides that will be analyzed by various methods, Tables 15a, 15b, 15c, and 15d from the Appendix B Sampling and Analysis Plan (SAP) are attached. The text of the SAP states that samples from the RBAs will be analyzed for all of these radionuclides.

ROCs vary by building (see Table 4-1 of the Work Plan). In addition to the standard three ROCs, three buildings have thorium-232 (^{232}Th), one building has cobalt-60 (^{60}Co), and one building has ^{239}Pu as ROCs.

Scanning:

1. The Phase 1 Trenches and the Former Buildings 317/364/365 Site will be over-excavated by 6 inches so that the removed material can be gamma scanned. All excavated material will be gamma scanned; this may be done at a radiological screening yard (RSY) pad or using a soil sorting system.
2. For Phase 2 Trenches, after removal of the durable cover, 100 % of the surface will be gamma scanned.
3. Former Building Site and Crawl Space Soil survey units (SUs) – after removal of the durable cover, if necessary (i.e., crawlspace does not have a durable cover) 100% of the surface area will be gamma scanned. All excavated material will be gamma scanned; this may be done at an RSY pad or using a soil sorting system.
4. Building surfaces will receive alpha and beta scans.

A gamma spectroscopy detector system also may be used to assess gamma scan investigation locations using a 1-minute or greater static count and spectral analysis to compare the activity at a specific point to background.

A minimum of 18 alpha-beta static readings will be collected from each building Survey Unit.